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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,834	06/23/2003	Shuuichi Yatabe	02410274US	6237

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McGuireWoods LLP
Suite 1800
1750 Tysons Boulevard
Tysons Corner
McLean, VA 22102-4215

EXAMINER

KING, BRADLEY T

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,834

Applicant(s)

YATABE, SHUUICHI

Examiner

Bradley T King

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NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06232003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of species II in the reply filed on 10/04/2004 is acknowledged.

All the claims appear to read on the elected species.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "the diameter". There is insufficient antecedent basis for this limitation in the claims.

Claim 1 recites "the holding portion". It is not clear which of the two previously recited holding portions corresponds to "the holding portion".

Claims 7-12 all recite "the inner circumferential face of the valve cylinder". There is insufficient antecedent basis for this limitation in the claims.

Claims 7-12 all recite two instances of "a forward annular chamber" and "a rear annular chamber". It is not clear each instance refers to the same chamber or if additional chambers are required.

Claims 7-12 all recite "the front face". There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2002/0073834.

US 2002/0073834 discloses all the limitations of the instant claims including: a booster shell 1; a booster piston 4 accommodated inside the booster shell and partitioning the interior of the booster shell into a front side vacuum pressure chamber 2 communicating with a vacuum pressure source and a rear side operation chamber 2; a valve cylinder 10 communicating with the booster piston, the valve cylinder including: a valve piston 18 fitted into the valve cylinder to be slidable in a forward and rearward direction of the valve cylinder; an input rod 20 coupling with the valve piston at a front end thereof; a control valve 38 switching communication of the operation chamber with the vacuum pressure chamber and with air in accordance with a forward and rearward movement of the input rod between the valve piston and the valve cylinder; and an input return spring 41 for pushing the input rod backward, and the control valve including: an annular vacuum pressure introducing valve seat 30 formed in the valve

cylinder; an atmosphere introducing valve seat 31 formed in the valve piston and arranged inside the vacuum pressure introducing valve seat; a valve body 34 including: an annular attaching bead portion 34b airtightly attached to the valve cylinder; an expansion cylinder portion 34c extending in the axial direction from the attaching bead portion; and an annular valve portion 34a communicating with a forward end portion of the expansion cylinder portion and opposed to the vacuum pressure introducing valve seat and the atmosphere introducing valve seat so as to seat thereon; and a valve spring 36 for pushing the valve portion so as to seat on the vacuum pressure introducing valve seat and the atmosphere introducing valve seat, wherein a first port 28 communicating with the vacuum pressure chamber is opened on the outer circumferential side of the vacuum pressure introducing valve seat, a second port 29 communicating with the operation chamber is opened between the vacuum pressure introducing valve seat and the atmosphere introducing valve seat in such a manner that the inner circumferential side of the valve portion is communicated with the atmosphere, the attaching bead portion is tightly held by a pair of cylindrical holding portions formed in a pair of valve holders 35-a-b attached to the valve cylinder 10, and the diameter of the holding portion is smaller than the inner diameter of the valve cylinder.

Regarding claim 2, at least one 35b of the pair of valve holders is engaged on the inner circumferential face of the valve cylinder through a seal member 43.

Regarding claims 7-8, the valve portion 35a is slidably fitted on the inner circumferential face of the valve cylinder, a forward annular chamber 45A and a rear annular chamber 45B are formed in the valve cylinder, the forward annular chamber is

communicated with the first port 28 and the rear annular chamber is communicated with the second port 29, a forward annular chamber is closed by the front face of the valve portion when the valve portion is seated on the vacuum pressure introducing valve seat, and a back face of the valve portion is facing to a rear annular chamber.

Claims 1, 3, 5, 7-9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2002/0069751.

US 2002/0069751 discloses all the limitations of the instant claims including: a booster shell 2; a booster piston 5 accommodated inside the booster shell and partitioning the interior of the booster shell into a front side vacuum pressure chamber **A** communicating with a vacuum pressure source and a rear side operation chamber **B**; a valve cylinder 303 communicating with the booster piston, the valve cylinder including: a valve piston 314 fitted into the valve cylinder to be slidable in a forward and rearward direction of the valve cylinder; an input rod 328 coupling with the valve piston at a front end thereof; a control valve 324 switching communication of the operation chamber with the vacuum pressure chamber and with air in accordance with a forward and rearward movement of the input rod between the valve piston and the valve cylinder; and an input return spring 337 for pushing the input rod backward, and the control valve including: an annular vacuum pressure introducing valve seat 317 formed in the valve cylinder; an atmosphere introducing valve seat 322 formed in the valve piston and arranged inside the vacuum pressure introducing valve seat; a valve body 324 including: an annular attaching bead portion (see figure 12) airtightly attached to the

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valve cylinder (via the holders); an expansion cylinder portion extending in the axial direction from the attaching bead portion; and an annular valve portion S1-S2 communicating with a forward end portion of the expansion cylinder portion and opposed to the vacuum pressure introducing valve seat and the atmosphere introducing valve seat so as to seat thereon; and a valve spring 323 for pushing the valve portion so as to seat on the vacuum pressure introducing valve seat and the atmosphere introducing valve seat, wherein a first port communicating with the vacuum pressure chamber is opened on the outer circumferential side of the vacuum pressure introducing valve seat, a second port communicating with the operation chamber is opened between the vacuum pressure introducing valve seat and the atmosphere introducing valve seat in such a manner that the inner circumferential side of the valve portion is communicated with the atmosphere, the attaching bead portion is tightly held by a pair of cylindrical holding portions formed in a pair of valve holders (339 and the surrounding cylinder) attached to the valve cylinder 303, and the diameter of the holding portion 339 is smaller than the inner diameter of the valve cylinder.

Regarding claims 3 and 5, a cylindrical connecting portion engaging with an outer circumferential face of one valve holder having the holding portion for holding an inner circumferential face of the attaching bead portion is integrally formed in the other valve holder having the holding portion for holding an outer circumferential face of the attaching bead portion. Note figures 12 and 2 which shows the engagement of the holder 39, 339 with the outer cylinder.

Regarding claims 7-9 and 11, the valve portion S1-2 is slidably fitted on the inner circumferential face of the valve cylinder, a forward annular chamber (near 331) and a rear annular chamber (near 316) are formed in the valve cylinder 302-303, the forward annular chamber is communicated with the first port and the rear annular chamber is communicated with the second port, a forward annular chamber is closed by the front face of the valve portion when the valve portion is seated on the vacuum pressure introducing valve seat, and a back face of the valve portion is facing to a rear annular chamber.

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5190125.

US 5190125 discloses all the limitations of the instant claims including: a booster shell 12; a booster piston 17 accommodated inside the booster shell and partitioning the interior of the booster shell into a front side vacuum pressure chamber 16 communicating with a vacuum pressure source and a rear side operation chamber 17; a valve cylinder 18 communicating with the booster piston, the valve cylinder including: a valve piston 21 fitted into the valve cylinder to be slidable in a forward and rearward direction of the valve cylinder; an input rod 20 coupling with the valve piston at a front end thereof; a control valve 23 switching communication of the operation chamber with the vacuum pressure chamber and with air in accordance with a forward and rearward movement of the input rod between the valve piston and the valve cylinder; and an input return spring 29b for pushing the input rod backward, and the control valve

including: an annular vacuum pressure introducing valve seat 18b formed in the valve cylinder; an atmosphere introducing valve seat 21a formed in the valve piston and arranged inside the vacuum pressure introducing valve seat; a valve body 22 including: an annular attaching bead portion (see figure 4) airtightly attached to the valve cylinder; an expansion cylinder portion 22b1 extending in the axial direction from the attaching bead portion; and an annular valve portion 22a communicating with a forward end portion of the expansion cylinder portion and opposed to the vacuum pressure introducing valve seat and the atmosphere introducing valve seat so as to seat thereon; and a valve spring 29a for pushing the valve portion so as to seat on the vacuum pressure introducing valve seat and the atmosphere introducing valve seat, wherein a first port communicating with the vacuum pressure chamber is opened on the outer circumferential side of the vacuum pressure introducing valve seat, a second port communicating with the operation chamber is opened between the vacuum pressure introducing valve seat and the atmosphere introducing valve seat in such a manner that the inner circumferential side of the valve portion is communicated with the atmosphere, the attaching bead portion is tightly held by a pair of cylindrical holding portions formed in a pair of valve holders 131a-b attached to the valve cylinder 18, and the diameter of the holding portion is smaller than the inner diameter of the valve cylinder.

Regarding claim 2, at least one 131a of the pair of valve holders is engaged on the inner circumferential face of the valve cylinder through a seal member 40.

Regarding claim 3-4, a cylindrical connecting portion engaging with an outer circumferential face of one valve holder having the holding portion for holding an inner

circumferential face of the attaching bead portion is integrally formed in the other valve holder 131a having the holding portion for holding an outer circumferential face of the attaching bead portion.

Regarding claims 5-6, wherein a recessing (on 131a) and a protruding portion (on 131b) elastically engaged with each other are formed on respective engaging faces between the pair of valve holders.

Regarding claims 7-12, the valve portion 22a slidably fitted on the inner circumferential face of the valve cylinder 18, a forward annular chamber and a rear annular chamber (see figure 5) are formed in the valve cylinder, the forward annular chamber is communicated with the first port and the rear annular chamber is communicated with the second port, a forward annular chamber is closed by the front face of the valve portion when the valve portion is seated on the vacuum pressure introducing valve seat, and a back face of the valve portion is facing to a rear annular chamber (see figure 1).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 2001-213303, GB 2320539 and US 5431090. All show boosting devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley T King whose telephone number is (703) 308-8346. The examiner can normally be reached on 11:00-7:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (703) 308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BTK


ROBERT A. SICONOLFI
PATENT EXAMINER
12/13/11